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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,468	09/10/2003	Marwan A. Jabri	021318-002700US	4961

20350 7590 09/28/2007
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EXAMINER

LERNER, MARTIN

ART UNIT	PAPER NUMBER
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2626

MAIL DATE	DELIVERY MODE
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09/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/660,468	JABRI ET AL.	
	Examiner	Art Unit	
	Martin Lerner	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 55 is/are pending in the application.
- 4a) Of the above claim(s) 1 to 17 and 36 to 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18 to 19, 24 to 26, and 35 is/are rejected.
- 7) ☒ Claim(s) 20 to 23 and 27 to 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group II, Claims 18 to 35, in the reply filed on 10 September 2007 is acknowledged.
2. Claims 1 to 17 and 36 to 55 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10 September 2007.

Drawings

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). ¶[0006] - ¶ [0007] describe Figures 1 and 2 as prior art methods appearing in the literature.

Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office Action. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because it is more than one hundred and fifty words. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

The Specification is object to because it does not provide any reference numerals for the elements of the drawings. It is conventional for drawings to contain reference numerals, which reference numeral are described by, and included in, the Specification.

In ¶[0039], "voce" should be "voice".

In ¶[0042], "frame" should be capitalized after "packing module."

Appropriate correction is required.

Claim Objections

6. Claims 26 to 35 are objected to because of the following informalities:

There is a lack of antecedent basis for some of the elements of these claims. Specifically, "the source interpolated excitation parameters", "the source excitation signal", "the destination excitation parameters", "the reconstructed source excitation signal", "the source excitation vector", "the calibrated excitation vector", "the excitation space", "the filtered excitation space", and "the interpolated pitch lag parameter" all have no antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 lacks claim dependency, and there is no antecedent basis for “the excitation mapping”. Presumably, claim 35 should depend upon claim 34, and is so treated for purposes of examination.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tsuchinaga et al.* in view of *Suzuki et al.*

Concerning independent claim 18, *Tsuchinaga et al.* discloses a method for transcoding a speech signal, comprising:

“processing a source codec input bitstream to unpack at least one or more voice parameters from an input bitstream in the case of CELP-based codecs the voice

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parameters include at least LSPs, pitch lag, adaptive codebook gain, fixed codebook gain, and fixed codevectors” – transcoding is provided between AMR and G.729A, which are CELP-based codecs, implicitly (column 1, lines 5 to 30); code demultiplexer 71 demultiplexes input speech code of G.729A into LSP code, pitch lag code, algebraic code (“fixed codevectors”), and gain code; gain dequantizer 75a dequantizes gain code and outputs an algebraic-gain dequantized value (“fixed codebook gain”) and a pitch-gain dequantized value (“adaptive codebook gain”) (column 20, line 50 to column 21, line 22: Figure 12);

“classifying a frame type of a destination codec from the one or more input parameters of the source codec” – frame-type detector 52 detects frame-type information Ftype1 from entered code data bst1 and outputs frame-type information Ftype1 to a transcoding controller 53; frame-type detector 52 identifies speech activity segments and silence segments (column 12, lines 28 to 31: Figure 1); if a frame type of a source frame is silence or speech, a corresponding destination frame is silence or speech, too (column 12, lines 36 to 58: Figure 1);

“mapping the source CELP parameters to destination CELP parameters using a selected mapping strategy” – generally, there is a mapping strategy for transcoding between G729A and AMR; specifically, a mapping strategy involves silence compression, non-transmit frames, and speech activity, as well as taking into account differences in frame length (column 9, lines 7 to 60);

“encoding the one or more CELP parameters for the destination codec” – LSP quantizer 72b, pitch-lag quantizer 73b, algebraic code quantizer 74b, pitch-gain

quantizer 75b, and algebraic gain quantizer 75c provide quantization of parameters in a scheme of AMR (column 20, line 64 to column 21, line 22: Figure 12);

“processing a destination bitstream by packing the one or more voice parameters for the destination codec” – code multiplexer 76 multiplexes the LSP code, pitch-lag code, algebraic code, pitch-gain code, and algebraic gain code, which are output from quantizers 72b to 75b (column 21, lines 23 to 27: Figure 12).

Concerning independent claim 18, *Tsuchinaga et al.* does not expressly disclose the steps of determining a rate of the destination codec and interpolating one or more of a plurality of unpacked voice parameters. However, *Suzuki et al.* teaches a method of transcoding voice, comprising:

“determining the rate of the destination codec output from one or more input parameters of the source codec and external control commands” – there are eight encoding modes in AMR, but one transmission rate is 7.95 kbps, while the bit rate of G.729A encoding is 8 kbps (column 12, lines 17 to 24); implicitly, a rate of a destination codec must be known beforehand by the codec or set by a controller, so that a codec knows what encoding mode to output for AMR in a G.729A to AMR transcoder;

“interpolating one or more of a plurality of unpacked voice parameters from a source codec to a destination codec format if a difference exists between the frame size, subframe size, or sampling rate of the destination codec and the frame size, subframe size, or sampling rate of the source codec” – an LSP interpolator 4 obtains an LSP interpolated value from the LSP dequantized value (column 2, lines 8 to 35: Figure 23); LSP code of G.729A method is converted to LSP code of AMR method; there is a

difference in frame length between G.729A and AMR; according to the AMR method, one frame consists of four subframes, and LSPc0, LSPc1, and LSPc2 are interpolated by interpolation operations of Equations (22) to (24) (column 18, lines 7 to 61: Figure 11); G.729A and AMR have the same subframe length (5 ms), and the same order of linear prediction, but have different frame lengths and different numbers of subframes per frame (column 6, lines 21 to 39).

Concerning independent claim 18, *Suzuki et al.* teaches an objective is to reduce voice delay and improve voice quality. (Column 8, Lines 20 to 38) It would have been obvious to one having ordinary skill in the art to provide rate determination and parameter interpolation as taught by *Suzuki et al.* in a method of transcoding a speech signal of *Tsuchinaga et al.* for a purpose of reducing delay and improving voice quality.

Concerning claim 19, *Suzuki et al.* teaches converting an input bitstream of CELP parameters including LSP code, pitch-lag code, algebraic code, and gain code (column 10, line 66 to column 11, line 15: Figure 1), dequantizing LSP codes by LSP dequantizer 82a (column 12, lines 47 to 63: Figures 4A and 4B), and interpolating dequantized values of LSP0(i) (column 18, lines 24 to 61: Figure 11).

11. Claims 24 to 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tsuchinaga et al.* in view of *Suzuki et al.* as applied to claim 18 above, and further in view of *Zinser, Jr. et al.*

Suzuki et al. teaches interpolating LSP coefficients from a source codec of G.729A to a destination codec of AMR ("from the source codec" and "for the destination

codec") (column 18, lines 24 to 61: Figure 11), which involves a mapping of source interpolated LSP coefficients to destination LSP coefficients. Subsequently, all transcoded parameters are then quantized by quantizers 82b, 83b, 84b, and 85b (column 11, lines 15 to 51: Figure 2). *Tsuchinaga et al.* discloses a mapping strategy for silence compression, non-transmit frames, and speech activity, for frame types from frame-type detector 52 (column 9, lines 7 to 60; column 12, lines 28 to 35). Moreover, *Suzuki et al.* discloses an interpolation which is described by interpolation equations, which are a linear transformation. (Column 18, Lines 38 to 53: Equations (22) to (24)) The only elements omitted by *Tsuchinaga et al.* and *Suzuki et al.* are interpolating CELP parameters other than LSP coefficients, and mapping source interpolated excitation parameters. However, *Zinser, Jr. et al.* teaches transcoding methods where interpolation is performed on LSF's, voicing, pitch, and gain due to different frame sizes between LPC-10 and TDVC. ($\pi[0141] - \pi[0148]$ and $\pi[0164] - \pi[0171]$: Figures 5 and 6) Broadly, voicing, pitch, and gain are "interpolated excitation parameters". An objective is to require significantly less computing resources. ($\pi[0017]$) It would have been obvious to one having ordinary skill in the art to interpolate excitation parameters other than LSP coefficients as taught by *Zinser, Jr. et al.* in a method of transcoding a speech signal of *Tsuchinaga et al.* and *Suzuki et al.* for a purpose of requiring significantly less computing resources.

Allowable Subject Matter

12. Claims 20 to 23 and 27 to 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Sluijter et al., Choi et al., and Chong-White et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

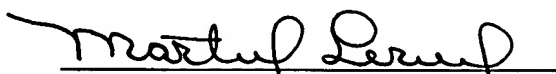
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML
9/19/07

A handwritten signature in black ink, appearing to read "Martin Lerner", written over a horizontal line.

Martin Lerner
Examiner
Group Art Unit 2626